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STUDY REGARDING CONSUMERS BEHAVIOUR TOWARDS INNOVATIVE CONFECTIONERY PRODUCTS

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Abstract

Confectionery is one of the food industry sectors with the greatest dynamics and innovation in Romania. Cooperation among confectioners, ingredient producers and food technologists is useful to the technologies and recipes development and optimisation, and intelligent use of ingredients in order to meet the consumers' expectations and demanding. The present work focused on the investigation of consumer's behaviour regarding purchasing of the confectionary products and to identify the factors affecting the impact on the purchasing decision. Data were obtained based on a questionnaire and the respondents were selected based on conventional sampling procedures. Data analysis and results interpreting were done using statistical techniques.

Key words*: behaviour, confectionary products, consumers, innovation, market research.*

INTRODUCTION

In Romania, the market and consumption per capita of frozen foods are among the lowest in Europe and the highest seasonality. However, the growth potential is high, with the segment growing in a context that is due to the ease and speed of preparing the table for such products. The retail market for frozen confectionery products grows steadily every year, but it is a small segment, considering that there are complementary categories where similar products can be purchased: bulk store bakery, baked goods or even well-known street pastry (Retail Zoom research).

Lack of free time and increased purchasing power make Romanians look for frozen pastry because of eased preparation, but also for the multitude of applications / versatility.

There are several types of desserts that can be frozen, including bakery desserts (cakes, pies, etc. – unbaked, pre-baked or ready-to-eat), starch-based or gelatin-based custards and puddings, raw and prepared fruits, sweetened whipped toppings, and many more.

These products are all characterised by thawing before consumption. In these products, the freezing steps must be optimised to maintain the quality parameters that were inherent in the original product before freezing, to deliver to the consumer a final product that has not been affected by the freezing process.

In addition to infrastructure, frozen products "carry" additional costs of controlled temperature and electricity.

Besides the challenges of the described situation, there is also the need to keep the price of products at a level according to the category they are part of, all under the conditions mentioned above - respectively for fish and seafood, restrictions on fishing areas and annual quotas etc. (Sun Da Wen, 2006).

MATERIALS AND METHODS

Data regarding the consumer's perception on confectionery products, frozen goods, or innovative sweet products has been collected by filling a questionnaire with 24 questions by 466 respondens.

The questionnaires were completed and uploaded on Google forms document by 30 students of the Faculty of Animal Productions Engineering and Management, participants of the project-contest "Innovation and research in frozen confectionery" developed by the Faculty of Animal Productions Engineering and Management of University of Agronomical and Veterinary Medicine University of Bucharest (Bahaciu et al., 2018).

RESULTS AND DISCUSSIONS

Data collected via questionnaires was graphic processed and presented based on each characteristic investigated and it will be detailed for each item.

Consumer's behaviour

Regarding the place to buy confectionery products, 44.47% of the respondents said that they are buying confectionery products from their favourite confectionery store and only 3.9% from online shopping / home delivery (figure 1).

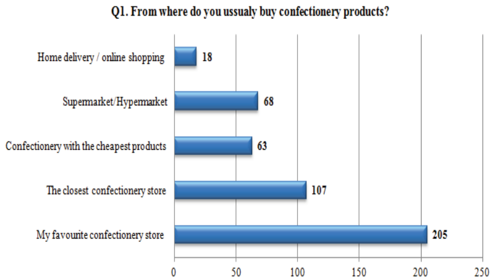


Fig. 1. Preferences on places to buy confectionery products

The most important criteria for choosing the place to buy confectionery products it is also shown in figure 2.

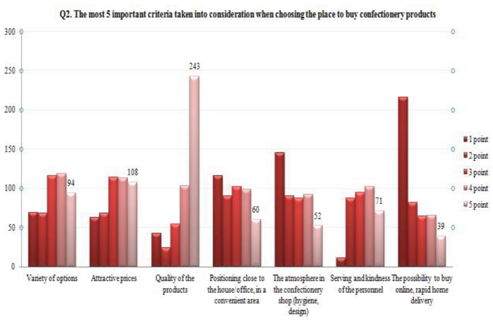


Fig. 2. The most important criteria for choosing the place to buy confectionery products

As it can be observed, the most important was considered the quality of the products (243 respondents gave 5 points of importance); attractive price was the second criteria with 108 answers and serving and kindness of the personnel was the third choice (with 71 answers).

The usual reason for purchasing confectionery products was also investigated in the questionnaire and data is available in figure 3.

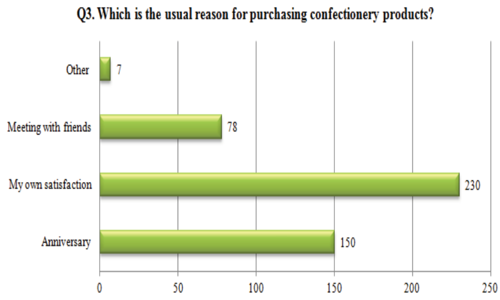


Fig. 3. The usual reason for purchasing confectionery products

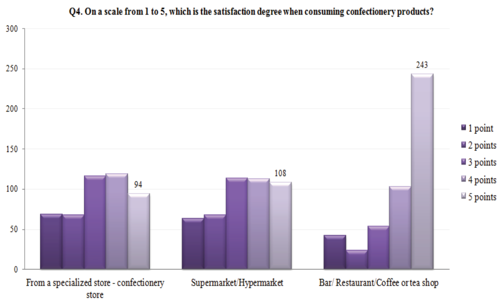


Fig. 4. The satisfaction degree when consuming confectionery products

People buy confectionery products for their own satisfaction (49.46%), followed by anniversary reasons (32.26%). Meeting with friends is the third reason for purchasing choice of confectionery products (16.78%).

The satisfaction degree when consuming confectionery products is also an important item to be tested on consumers, from the producer's point of view and it is shown in figure 4. The highest satisfaction of confectionery products consumption is reached when consumed in bars, restaurants or coffee/tea shops (243 respondents gave 5 points).

When buying confectionery products, consumers take into consideration different criteria and the importance of these criteria are shown in figure 5. The most important are: products freshness (211 of 5 points answers), quality (204 of 5 points answers), ingredients used (95 answers). It is important to observe that buying products with special characteristics (raw-vegan, natural ingredients, with functional effects ingredients) is considered the last 5 points choice for the consumers (only 56 gave the maximum score).

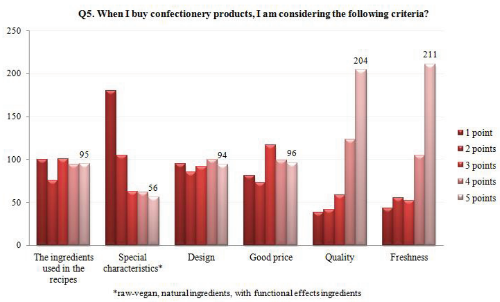


Fig. 5. Criteria taken into consideration when buying confectionery products

Consumption habits: frequency of buying, preferences on confectionery products

56.56% of respondents considered that confectionery products are an occasional desert

Thus, 3.66% think that there are a rapid replacement of a meal (figure 6).

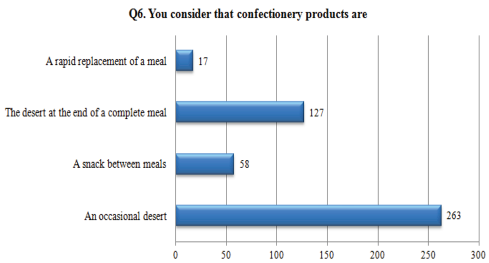


Fig. 6. Considerations on confectionery products

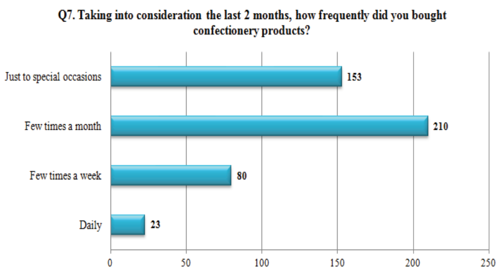


Fig. 7. The frequency of confectionery products buying

The frequency of confectionery products buying is shown in figure 7. It can be observed that 45.06% of the respondents buy confectionery products few times a month, 32.83% just to special occasions, few times a week. There are also 17.17% of respondents that are buying confectionery products daily.

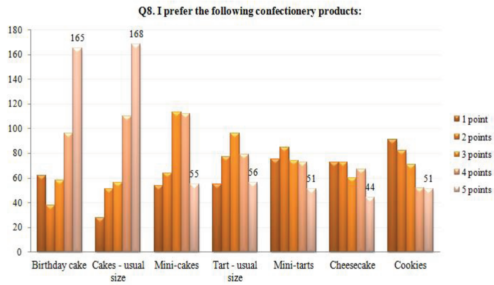


Fig. 8. The most preferred confectionery products

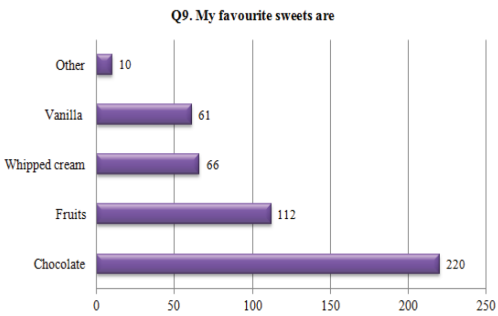


Fig. 9. The most preferred sweets

Personal Preferences

The personal preferences of the consumers (types of products, favourite cakes, tastes, decorations) are important parameters to be investigated by producers and marketing departments, so we have introduced these into the questionnaire.

As it can observed from figure 8, the most preferred confectionery products are cakes-usual size (168 responses with high grade), birthday cakes (165). At a long distance, tart-usual size (56), mini-cakes (55), mini tarts and cookies (51) and finally cheesecakes (51) are following. Referring to the most appreciated sweets, 220 consumers have pointed chocolate, which means 46.91% of total respondents. The following preferences were, in order, fruits (23.88%), whipped cream (14.07%), vanilla (13.01%).

Regarding the favourite taste for the confectionery products, in figure 10 it can be shown that the most appreciated taste is sweet and flavoured (26.94% of respondents), followed by sweet (23.28%), sweet and sour

(21.55%). The intense sweet products are appreciated by only 12.28% of the respondents.

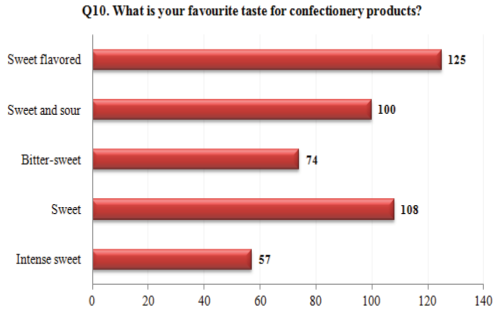


Fig. 10. The favourite taste for the confectionery products

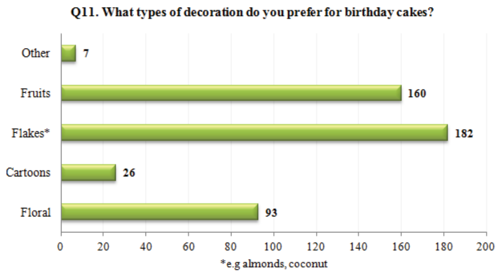


Fig. 11. Decorations preferences of the consumers

Consumers prefered as decoration for birthday cakes (figure 11) the almonds or coconut flakes (38.89%). The next decoration in the preferences of the investigated consumers was fruits (34.19%), followed by floral decorations (19.87%) and cartoons (5.56%). When producers take into consideration their portfolio of products extending, it is very important to have an opinion on consumers opening to new products, new tastes or aroma. This is why in our questionnaire we included some questions to find the eventual consumer's reluctance to new developments. These trends were investigated via questionnaire and the results are shown in figure 12.

Consumers were opened to buy flakes (32.02%), products with unexpected flavours (29.19%), natural flavoured products (14.68%).

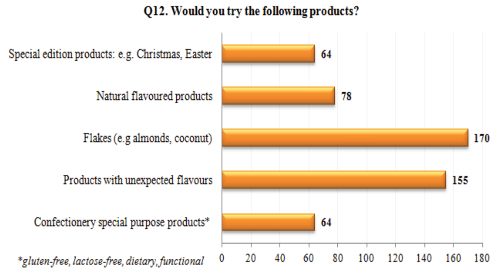


Fig. 12. Opening to buy different types of confectionery products

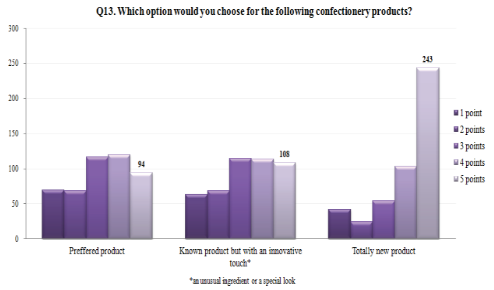
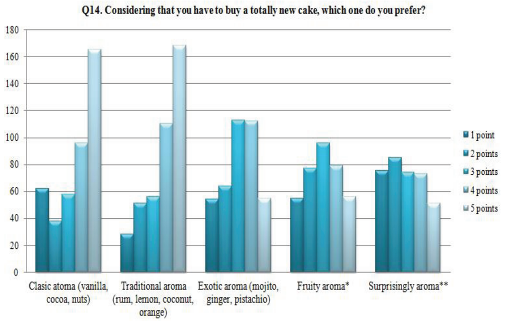


Fig. 13. Choosing option between preferred products or totally new ones

As it can be seen in figure 13, the respondents expressed their opening to totally new products (243 of 445 gave 5 points of importance at this question). This is a very important finding by showing the non conservative attitude of the respondents and their opening to try new things.

Perception on frozen products

Classic and traditional aromas were preferred by 165 and respectively 168 consumers (of total 495) in their intention of buying confectionery products (figure 14). On the other hand, exotic and fruity aromas were grated with 5 point on the scale by 55 and 56 consumers (respondents). Meanwhile, the surprisingly aroma like chilli chocolate, salted caramel, lime and coconut, as well as rosemary vanilla were preferred by 51 of the respondents, which means 10.3% of the total respondents.



**blueberries, raspberries, strawberries, bitter cherries*
***chilli chocolate, salted caramel, lime with coconut, rosemary vanilla*

Fig. 14. Opening to new aromas

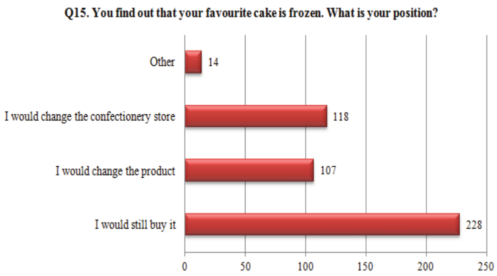


Fig. 15. Perception on frozen products

Almost half of the respondents to our questionnaire (48.82%) have also shown an opening to frozen products. 228 of them were saying that they will still try a cake even if they have found that the cake was frozen. Meanwhile, 48.18% will refuse the products, 118 or respondents will change the store and 107 will change the product (figure 15).

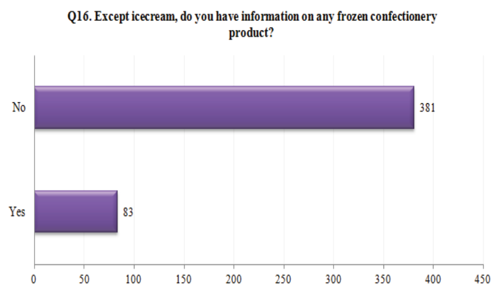


Fig. 16. Information on frozen products

The market of frozen confectionary products is not yet very well known by the Romanian consumers, because, except ice-cream, only 17.89% knew other frozen products (as frozen yogurt, or frozen confectionery products) (figure 16).

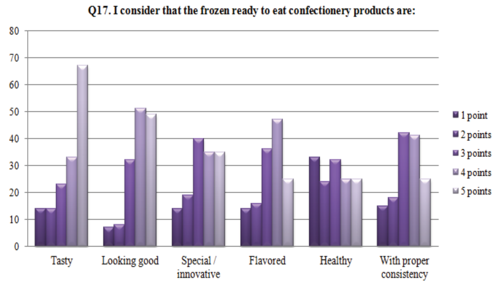


Fig. 17. Perception on frozen confectionery products

CONCLUSIONS

Changing patterns of consumption, active lifestyles, demand for new recipes, ingredients, but last but not least, convenience contribute to market growth. New product categories, such as prepared, ready-meals, will grow due to the demand for active lifestyle consumers.

1. The reason for purchasing confectionery product is for consumers own satisfaction (49.46%), anniversary reasons (32.26%), or meeting with friends (16.75%)
2. 56.56% of respondents considered that confectionery products are an occasional desert; thus, 3.66% which think that there are a rapid replacement of a meal. This must be taken into attention due to the high rate of obsesity. In 2016, Romania had a prevalence of obesity among adults aged between 20 and 29.9% (Romanian Governement, 2018).
3. Classic and traditional aromas were preferred by 67.28% in total respondents, but also 10.3% of the respondents shown a high interest in surprisingly aroma like chilli chocolate, salted caramel, lime and coconut, as well as rosemary vanilla. This show a great opening to new falvours and aroma
4. Almost half of the respondents (48.82%) have also shown an opening to frozen products.

As with most other frozen products, freezing time and storage temperature are the most important parameters to be optimised. Rapid freezing promotes small ice crystals, which minimise structure disruption and water dislocation. Low and constant storage temperatures maintain this population of ice crystals by minimising ice recrystallisation (Evans, 2008).

Desserts often provide a challenge due to formulation as a result of high sugar content. This creates a low freezing point due to solute effects and freeze-concentration, which results in a high content of unfrozen water at typical storage temperatures, in comparison to products like vegetables or meats. Thus, it is especially imperative that desserts be maintained at the lowest storage and distribution temperatures possible. Functional ingredients, such as polysaccharide stabilisers or modified starches, may be used to help control water redistribution and ice recrystallisation (Goff and Hartel, 2006).

ACKNOWLEDGEMENTS

The work on this research was carried out with the support of the project-contest "Innovation and research in frozen confectionery" developed by the Faculty of Animal Productions Engineering and Management of University of Agronomical and Veterinary Medicine University of Bucharest. The contest consisted in the creation of 5 categories of products (tart, cake, festive cake, innovative cake and cheesecake) and as participants were 5 teams, each of 6 students from the Faculty of Animal Productions Engineering and Management, selected by testing. Secondly, the project has testing the consumers opinion on confectioney products, innovation and freezing.

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